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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,583	09/30/2003	John E. Hoffmann	2479.2179-002	9955
21005	7590	09/26/2005	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133			ISSING, GREGORY C	
			ART UNIT	PAPER NUMBER
			3662	

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/675,583

Applicant(s)

HOFFMANN ET AL.

Examiner

Gregory C. Issing

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

Art Unit: 3662

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kalis et al (*Relative Direction Determination in Mobile Computing Networks*).

3. Kalis et al disclose a method for controlling a directional angle of a steerable antenna including producing an omni-directional pattern during an idle mode such that once the received signal strength (RSS) rises above a threshold, the procedure for determining direction begins. The receiver initially measures a metric of the preamble in the form of the RSS in each of N sectors to find the best signal sector, thereby setting the array to a candidate angle. The algorithm continues in a tree-like search, dividing each sector into respective subsectors until the best performance is found (see II C., p. 1481-2). the direction finding is required to be performed during the preamble period and not later since any loss of the header information bits will result in the discarding of the whole frame (II, p. 1480). The received signal strength is calculated every 16 microsec while the length of the preamble is 128 microsec (II, p. 1480); thus, multiple periods of measurements are performed during a single preamble prior to reception of the data portion. Each determination of a best signal corresponds to setting a candidate angle.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 4-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kalis et al in view of IEEE Std 802.11a-1999 (Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY Specifications – High Speed Physical Layer in the 5GHz Band).

Art Unit: 3662

Kalis et al teach the method substantially as claimed as set forth above and included intended use in mobile computing networks such as IEEE802.11 platforms. The IEEE Std. 802.11-1999 teaches the structure of a training sequence in Figure 110 (page 12) wherein the preamble is composed of short and long sync pulses which are used for signal detection, AGC and diversity selection as well as frequency offset estimation and timing synchronization. The use of the training sequence for its intended uses in the IEEE802.11 platform is therefore suggested by the combination of references. Figure 118 of the IEEE Standard additionally shows the block diagram of the receiver including the use of the FFT.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mahany (5,748,676) discloses a modified preamble that supports antenna diversity wherein an antenna receives and measures a portion of the preamble so as to enable a setting of a first satisfactory antenna, i.e. candidate angle, and subsequently the diversity protocol extracts further portions of the preamble to evaluate a best antenna search. Proctor, Jr. et al (6,304,215) disclose an adaptive antenna that provides antenna diversity using a pilot signal including determining a quality metric of the pilot at each of the antennas, selection of the best antenna and subsequent setting of the candidate angle, and further subsequent repetitions of the steps until the determined quality metric reaches a maximum. Wagner et al (6,456,675) disclose a method for controlling a directional antenna by measuring a quality metric of both test and payload data to improve signal quality. Meehan et al (2003/0119468) disclose antenna switching based on preamble metric measurements wherein a first portion of the preamble is applied to a first antenna and a second portion is applied to a second antenna to provide a plurality of processed signals for comparison. Rozanski (5,530,926) discloses a method for operating a switched diversity receiver by comparing the quality of a first and second signal, each of which precedes a desired signal (data).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory C. Issing whose telephone number is (571)-272-6973. The examiner can normally be reached on Monday - Thursday 6:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gregory C. Issing  
Primary Examiner  
Art Unit 3662

gci